

REMARKS/ARGUMENTS:

The Office Action dated November 26, 2007 concluded as follows for the subject application:

- Claims 1, 2, 4-6, 8, 10-12, 14-16 and 18-26 are rejected under 35 USC 102(b) as anticipated by Klemens (US 6,239,755);
- Claims 27, 29, 32, and 34-36 are rejected under 35 USC 102(b) as anticipated by Moller (US 5,995,050);
- Claim 28 is rejected under 35 USC 103(a) as obvious over Moller;
- Claims 1-29 are provisionally rejected for non-statutory double patenting over claims 1-29 of US Patent Application No. 10/783,661; and
- Claims 30-31 and 33 are deemed to recite patentable subject matter and rejected only for dependence from a rejected base claim.

These are addressed below in turn:

Rejections over Klemens:

Klemens identifies a problem of prior art mobile phones in that typical prior art monopole/whip antennas exhibit asymmetric radiation patterns due to unbalanced currents, and so the need arises for a mobile phone antenna that exhibits a symmetric radiation pattern (col. 1 lines 45-57). Klemens states that it is desirable that a mobile phone antenna exhibit a uniform radiation pattern and have a uniform gain in the azimuth (col. 2 lines 40-42). To this end Klemens' disclosure is directed to a balanced retractable dipole antenna having an extendable first radiator element and a second radiator element and signal balancing means between a signal source and the second radiator element so that generated first and second signals are equal in magnitude but 180 degrees out of phase. These respective signals produce balanced currents in the respective radiator elements and thereby produce a symmetric radiation pattern (abstract).

In relevant embodiments (6A-6B cited by the office action), Klemens' first radiator 604 is an extendable dipole whip that extends and retracts through the center of the helical second radiator 606, and the first radiator 604 is excited electromagnetically by the second radiator 606 rather than being directly connected to one another (col. 5 lines 38-40 and 50-64). The office action asserts Klemens' extendable dipole whip 604 against the extendable antenna component of claim 1, Klemens' helical radiator 606 against the transceiving antenna

component of claim 1, and the electromagnetic excitation between those Klemens radiators against the nongalvanic interface recited in claim 1.

Claim 1 is amended to recite “configured to” for certain elements to avoid any implication that such elements were of the means plus function genre. These changes are not done for reasons related to patentability. Claim 1 is further amended to recite that the extendable antenna component is “configured to widen a bandwidth of the transceiving antenna component”, support for which clearly lies at paragraph 0035. This element is not seen to be disclosed by Klemens and so claim 1 is novel over Klemens.

Claim 1 is also seen to be clearly non-obvious over Klemens, in view of ordinary skill, any other references of record, or any other reference that might be brought to bear. This is because the purpose of Klemens as detailed and sourced above is to produce balanced currents in the respective radiator elements and thereby produce a symmetric radiation pattern. The vehicle by which Klemens achieves this result is by generating different signals that are equal in magnitude but 180 degrees out of phase with one another, thus the symmetry. Were Klemens to be modified such that the Klemens extendable antenna extended a bandwidth of Klemens’ helical antenna, then the signal portion lying in that extended bandwidth could not be balanced, because it would have no counterpart in the other antenna with equal magnitude but opposite phase. If such a counterpart existed, there would be no bandwidth extension. Thus claim 1 is seen to be non-obvious over Klemens, as to modify Klemens to achieve all elements of claim 1 would undermine Klemens’ principle of operation and require such substantial redesign (elimination of the balun 616 and reconfiguring the counterpoise 608) as to be beyond ordinary skill.

Claims 14 and 20 are amended similarly to the substantive amendment to claim 1, and so are seen to be patentable and non-obvious over Klemens for reasons detailed above. Claim 26 is canceled.

Claim 6 is rewritten to independent form without benefit of the substantive amendment to claim 1 (while also removing instances of ‘wireless transceiver device’ from the body of the claim). As originally presented, claim 6 recited (and still does):

the extendable antenna component is tuned to operate at a frequency based on a length of the extendable antenna component **and an amount of overlap between the transceiving antenna component and the extendable antenna component.**

The office action cites to Klemens col. 5 line 54 to col. 6 line 17 for disclosing this subject matter. While length of the Klemens whip element invokes a frequency relation, there is seen no disclosure at the cited portion or elsewhere that the claimed *amount of overlap* is relevant in Klemens to the frequency at which the Klemens whip resonates. In Klemens, either the two resonators are electromagnetically coupled (the extended position) or they are not (the retracted position); Klemens does not disclose that an *amount* of overlap is of any relevance to frequency or any other function or property. The rejection to claim 6 is seen as error, and the Applicant respectfully requests its withdrawal.

Rejections over Moller:

Moller is directed to an antenna arrangement 402 having a helical first element 404 coupled to circuitry 408 and a mechanically spaced-apart straight second element 406 moveable relative to the first element 404 between first and second positions (Abstract, col. 3 lines 8-23).

The rejection of claim 27 is seen as improper. Moller discloses that the straight second element is “substantially electrically coupled to the first element in *both* the first position and the second position (col. 3 lines 20-22, claim 15 lines 11-16; first position is extended per Fig. 4 and second position is retracted per Fig. 5, see col 3 lines 10-11). Claim 27 recites a distinct configuration, that the extendable antenna component (which is inductively coupled to the fixed antenna component) is “*decoupled* from the fixed antenna component in a retracted position”.

Regardless, claim 27 is amended with the subject matter of now-canceled claim 34, that the extendable antenna component is configured to operate in the extended position to widen a bandwidth of the fixed antenna element. Whereas the office action rejected claim 34 as anticipated by Moller, no pinpoint citation to Moller was given and no disclosure is seen within Moller to render the subject matter of claim 34 anticipated. Claim 27 is seen allowable over Moller.

All other claims save claims 30-31 and 33 depend from one of claims 1, 12, 20, or 27, and should be allowable at least for the reason that each and every one of those independent claims are novel and non-obvious over any combination of cited references and/or ordinary skill.

Double Patenting Rejections:

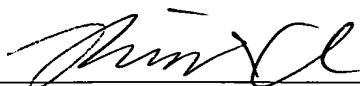
The companion application serial no. 10/783,661 is abandoned per office action dated December 28, 2005, and so the provisional double patenting rejection is seen as improper.

Allowable Claims:

The office action concluded that claims 30-31 and 33 are allowable. Each of those has been rewritten to independent form including intervening claim 29 being incorporated into claim 30. For clarity, claims 30 and 33 are also amended to recite that the printed wiring board *comprises* a ground plane to the fixed antenna component. These claims are seen to be in condition for allowance.

The Examiner is respectfully requested to review the cited art in view of the above claim amendments and detailed arguments, to withdraw the rejections and pass claims 1-25, 27-33 and 36 to issue. The undersigned representative welcomes the opportunity to resolve any matters that may remain, formal or otherwise, via teleconference at the Examiner's discretion.

Respectfully submitted:



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4/23/08
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Appl. No. 10/588,670
Amdt. Dated April 23, 2008
Reply to Office Action of November 26, 2007

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

April 23, 2008
Date

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